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Intermountain West Coordinated Bird Monitoring Program
Aquatic Bird Survey

Monitoring and assessment programs play a key role in avian conservation. For example, each of the recently completed State Wildlife Action Plans in the Intermountain West includes commitments to monitor bird populations. Population targets for bird conservation also are becoming important and will lead to increased pressure to obtain accurate estimates of current population size and to implement programs to provide reliable information (at multiple geographic scales) on progress toward achieving the targets.

Despite the importance of rigorous monitoring and assessment programs, many efforts at present are incomplete and poorly coordinated, and are of less value to managers than they might be. For example, it has recently been estimated that more than 350 separate surveys of aquatic birds are carried out each year in the Intermountain West. Most of the data collected, however, are not contributed to a central repository and many of the data sets are subsequently lost or are irretrievable. Furthermore, no comprehensive design declaring goals, objectives, and methods currently exists. As a result, even if the data collected could be assembled in one place, it would be difficult to produce regional estimates of distribution, abundance, or trends, or to address specific management issues.

Colony count at American Falls Reservoir, Idaho

These problems are being addressed by the Intermountain West Coordinated Bird Monitoring (IWCBM) program, a cooperative effort to assist State and federal agencies by increasing the efficiency of their bird monitoring efforts. Funding is provided by the Intermountain West Joint Venture, the Department of Defense, the Great Basin Information Project (part of the USGS National Biological Information Infrastructure), and the USGS Forest and Rangeland Ecosystem Science Center. In-kind contributions are being made by the many participants.

Vision

A comprehensive, efficient monitoring program in the intermountain west that helps people manage and conserve aquatic birds and the environments on which they depend.

Goals

- Describe distribution and abundance of aquatic species in the IW
- Identify relationships between species and habitat types
- Estimate population trends
- Develop infrastructure to address specific short-term management issues

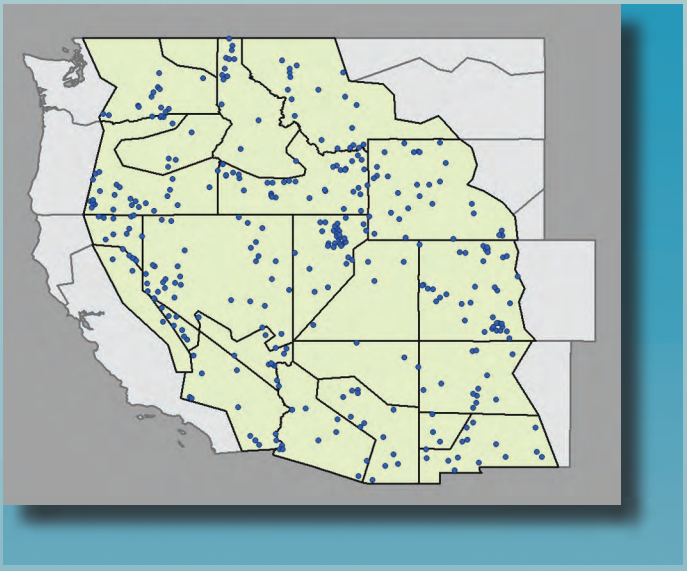
Objectives

- Develop a comprehensive sampling plan
- Improve coordination of existing surveys
- Implement additional surveys where needed
- Collect habitat information
- Establish a data management system

U.S. Department of the Interior
U.S. Geological Survey

Study Area

The survey area for the IWCBM program is extensive (see figure). Important areas for aquatic birds have been identified throughout this area.



Focal Species

Focal species for the Aquatic Bird Survey were selected using the general criterion that we should ideally monitor any species we would try to conserve if we knew the species was declining (or increasing for a few species). Using this criterion, we identified 85 aquatic species—23 shorebirds, 27 waterfowl, and 35 waterbirds—common enough in at least one state and season to warrant monitoring (Table 1). The numbers per state varied from 65 to 75. Surveys during the breeding season would provide information on 67 species, surveys during the migration period would provide information on all 85 species, and surveys during winter would provide information on 72 species.

Table 1. Number of species judged to warrant coordinated monitoring in the IW.

Inititative	West	WA	OR	ID	MT	WY	CA	NV	UT	CO	AZ	NM
Shorebirds	23	16	18	16	22	21	18	16	17	21	16	20
Waterfowl	27	26	26	23	24	24	25	22	23	23	22	23
Waterbirds	35	25	30	26	26	24	32	29	29	28	30	28
All species	85	67	74	65	72	69	75	67	69	72	68	71

Existing and Needed Surveys

Decisions about which surveys will be conducted at each site will be made by managers and biologists who have the resources to survey the sites. We defined five surveys types:

1. Aerial survey (primarily for waterfowl; any time of year but mainly winter in the IW)
2. Ground survey (usually for all aquatic species; any time of year)
3. Secretive marsh bird survey (for rails, bitterns, grebes; breeding season)
4. Migrating shorebird survey (migration season; shorebirds only)
5. Colony survey (breeding season; all colonial, aquatic species)

Data Management

A comprehensive system for data management, modeled on work being done at the Cornell Laboratory of Ornithology and elsewhere around the world, is being developed for the IWCBM project. A "distributed, federated approach" is being used in which data owners maintain their data, taking responsibility for entry, error checking, and storage. Data owners also participate in defining core variables and subsets of data that will be contributed to a central repository and made available to all collaborators and to others. Analytic tools are also being developed for such common tasks as predicting bird abundance in specified locations and estimating trends. A comprehensive web site has been created for the project (see below).

http://greatbasin.nbii.gov/iwcbm/

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